

APRIL/MAY 2023

**CEL32/BEL32/UEL32 — ANALOG
ELECTRONICS**

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What is an amplifier?
2. What is power dissipation?
3. What is distortion?
4. What is bandwidth?
5. Define CMRR?
6. What is slew rate?
7. Draw a inverting amplifier using OP-AMP?
8. What is a filter?
9. State the features of feedback.
10. Define Barkhausen criterion for oscillation.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Explain single ended amplifiers.

Or

- (b) Explain the role of emitter follower.

12. (a) Derive an expression for transfer gain with feedback.

Or

- (b) Explain the effect of negative feedback on gain.

13. (a) Derive an expression for Differential gain.

Or

- (b) Explain the role of offset parameters.

14. (a) Explain the action of sine wave generator using OP-AMP.

Or

- (b) Explain the action of Integrator using OP-AMP.

15. (a) Explain the feedback requirement of oscillations.

Or

- (b) Explain the action of monostable multivibrator.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Explain the working of Class A power amplifier.

17. Explain the analysis of Input and output resistance in the case of various types of feedback.

18. Explain the principles and transfer characteristics of Op-Amp.

19. Explain the working of square waveform generators.

20. Explain the action of UJT relaxation oscillator.